Pharmacy & Pharmacy Practice, Faculty of Pharmacy, AIMST University, Kedah, Malaysia, [3]Faculty of Law, Universiti Malaya, Kualalumpur, Malaysia

OBJECTIVES: To determine the prescribing pattern of specialized physicians for tuberculosis in Punjab, Pakistan. **METHODS:** A drug utilization study was conducted at community pharmacies among tuberculosis patients attending tertiary hospitals. A stratified sampling technique was used for selecting community pharmacies. Prescriptions written by tuberculosis specialized physicians were collected and analyzed according to WHO standard treatment guidelines. **RESULTS:** The data were gathered from 750 prescriptions. Unfair number of drugs were prescribed in which the mean number of drugs in a single prescription was 7.0 (+2.1). The value of prescribing indicators was more than the WHO standard indicators. Most of the prescribed medicines (95%) were written in their brand names. Moreover, the frequently prescribed medicines were antibiotics (37.7%); anxiolytics (23.5%); and corticosteroids (29%). **CONCLUSIONS:** Physicians' adherence to the standard practicing guidelines was poor although the affordability of medicines was fair but still the prescribing pattern needs to be apposite. Implementation of administrative strategies to improve the current prescribing pattern as well as patient-educational programs concerning the tuberculosis treatment are of utmost importance. In addition, further studies are required in other provinces of Pakistan in order to understand the complete prescribing behavior of the physician to treat tuberculosis throughout the country.

URINARY/KIDNEY DISORDERS – Clinical Outcomes Studies

PUK1

CYCLOSPORINE IS NOT THE DRUG OF CHOICE FOR RENAL TRANSPLANTED PATIENTS AND INCREASES THE RISK OF CARDIOVASCULAR AND CEREBROVASCULAR ACCIDENTS

Fazal J

Uinversita' della Calabria, Cosenza, Italy

OBJECTIVES: The aim of the study was to investigate 1) if the average Pakistanis and average Italian kidney post transplanted patients have same episodes of adverse events after intake of cyclosporine,tacrolimus and corticosteroids 2) and to green light the safest as well as hazardous drug among these three with appropriate reasons for effectiveness and ineffectiveness. **METHODS:** The subjects were randomly selected including 706 pakistani and 568 italian patients both male and female with inclusion criteria of teen age and geriatric patients.Blood sample was taken from each subject in order to determine the amount of creatinine,glucose,hemoglobin and cholesterol.Urine sample was also taken in order to determine level of protein.Also Delayed Graft Function (DFG) was observed in these subjects. **RESULTS:** Thirty one percent of Italian men and 26% of Italian women suffered from hypercreatininemia and hyperproteinuria including hemoglobinemia and hypercholesterolemia whereas 22% of Pakistani men and 21.50% of Pakistani women experienced same adverse effects.It was observed that majority of adverse effects were found between age group 46-55 and found to be least between age group 17-25. **CONCLUSIONS:** It was concluded that for immuno-compromised patients DGF,mortality rate and risk of transplant failure has been shown minimum for corticosteroids,intermediate for tacrolimus and maximum for cyclosporine and for immuno-competent patients,tacrolimus was effective drug. As cyclosporine which is composed of 11-amino acids,is followed by a competitive receptor binding with proteins whose level exceeds the upper limit in abnormal kidney function and hence those amino acids having same 'R' functionality with attaching side of cyclosporine will compete leading to unavailability of cyclosporine.Also it was observed that patient's adherence was maximum with corticosteroids as they produce synergistic effect with adrenal gland's steroid production.These data suggest that immuno-suppressants should be monitored with special care depending upon the immune status of patient.

PUK2

CORRELATION BETWEEN EQUATION FOR ESTIMATING GLOMERULAR FILTRATION RATE: CHRONIC KIDNEY DISEASE EPIDEMIOLOGY COLLABORATION -CKD -EPI, COCKCROFT-GAULT -CG- AND MODIFICATION OF DIET AND RENAL DISEASE –MDRD4- IN COLOMBIA

Acuña L[1], Mejia C[2], Alvis LF[2], Sanchez P[2], Soler L[3]

[1]*Cuenta de Alto Costo, Bogotá, Colombia,* [2]*Cuenta de Alto Costo, Bogota, Colombia,* [3]*cuenta de alto costo, bogota, Colombia*

OBJECTIVES: In order to determine the GFR different equations had been used, mainly CG, the MDRD and CKD-EPI; with differences in estimation of renal function by these equation, therefore we defined to determine the correlation between these to estimate GFR in patients with hypertension (HT), diabetes (DM) or some stage of chronic kidney disease (CKD). **METHODS:** Data from 3.055.568 patients over 18 years with HT, DM and CKD was used. Prediction limits for differences between pairs of measurements using the limits according to Bland and Altman were calculated and plotted, the valuesLin correlation coefficients between MDRD-CG, CG-CKD/EPI and CKD/EPI-MDRD couples, considering that the three methods provide results measurement in the same scale. **RESULTS:** 1.348.214 patients were included, 832.129 women (61.7%). The age mean was 64.3 years (standard deviation (SD) 13.2), 50% of patients were between 60 and 74 years old. 94% had diagnosis of HT and 26% of DM. The intraclass correlation coefficient (ICC) between CG and DMRD was 0.704 with 95% of (0.703- 0.705) with a difference mean of 3.5 and Bland and Altman agreed limits from -31.65 to 43.83; ICC being CG and CKD-EPI is 0.728 with a CI 95% (0.729-0.730) with a difference mean of 1.73 and Bland and Altman agreed limits from -37.26 to 40.62 and correlation coefficient being intraclass CKD-EPI and MDRD is 0.855 with 95% of (0.855, 0.856) with a difference mean of -1.86 and Bland and Altman agreed limits from -25.61 and 21.89. **CONCLUSIONS:** General population studies have reported a good correlation comparison between DRMD and CKD -EPI, our results in CKD population and precursor disease, also have shown a good correlation between them. Similar findings have been observed in other reports. In clinical practice and screening programs, variations between one equation and another, specifically in early stages of CKD, should be considered.

PUK3

PATIENT BENEFITS AND COST SAVINGS PREDICTED FOR MINERALOCORTICOID-RECEPTOR ANTAGONIST TREATMENT OF EARLY AND ADVANCED DIABETIC KIDNEY DISEASE

Blankenburg M[1], Pelkey R[2], Folse HJ[2]

[1]*Bayer HealthCare Pharmaceuticals, Berlin, Germany,* [2]*Evidera, San Francisco, CA, USA*

OBJECTIVES: Exploratory studies suggest that mineralocorticoid-receptor antagonists (MRAs) may improve outcomes in patients with diabetic kidney disease (DKD). Finerenone (BAY 94-8862) is a selective, potent and non-steroidal MRA for the treatment of patients with DKD, currently studied in two clinical phase III trials. Early modeling investigated the implications of using finerenone in addition to standard of care. **METHODS:** A Markov cohort model was used to emulate disease history, treatment effects, and outcomes for DKD patients with various disease severities (by albuminuria, measured by urinary-albumin-creatinine ratio [UACR], and chronic kidney disease [CKD] stage, measured by estimated glomerular filtration rate [eGFR]). Efficacy of finerenone is accomplished by reducing UACR, evidenced by phase 2 trial data. The model has UK settings; inputs are from NHANES 1999-2008, adapted to UK population, USRDS 2009, various registries, and trials. Sensitivity analyses explored which patient subpopulation would benefit to what extent from finerenone treatment. **RESULTS:** The model predicts that finerenone is an effective treatment option for DKD patients, primarily by virtue of reduced risk of end-stage renal disease (ESRD) and renal death (absolute risk reductions [ARR] of up to 8.3% and 8.2%, respectively, for advanced DKD, i.e. macro-albuminuria and CKD3/4) and increased health-related quality of life, and that it would generate cost savings on renal replacement therapy (up to £5,353 for advanced DKD). From a clinical outcomes perspective the optimal time point to begin finerenone treatment appears to be after patients have progressed to either macro-albuminuria or CKD stage 3, as represented by both phase III trial populations. Reduced CV events and CV mortality, however, are greatest (ARR of up to 3.7% and 4.7%, respectively) when finerenone treatment is started in CKD stages 3 or earlier. **CONCLUSIONS:** Treatment with the MRA finerenone appears to be of significant benefit to patients and the healthcare system, particularly if initiated in advanced stages of DKD.

PUK4

DATA MINING BASED ON REAL WORLD DATA IN CHRONIC KIDNEY DISEASE PATIENTS NOT ON DIALYSIS: THE KEY ROLE OF EARLY HEMOGLOBIN LEVELS CONTROL

Frimat L[1], Pau D[2], Sinnasse-Raymond G[2], Choukroun G[3]

[1]*INSERM CIC-EC CIE6, Vandoeuvre, France,* [2]*Roche, Boulogne-Billancourt, France,* [3]*CHU Amiens, Amiens, France*

OBJECTIVES: The aim of the OCEANE non interventional study was to describe in real life conditions the management of anaemia with C.E.R.A. in patients with chronic kidney disease not on dialysis. We used data from this study to perform exploratory analysis to evaluate factors influencing haemoglobin levels. **METHODS:** To identify these factors, supervised and unsupervised data mining models and statistical approaches such as Random forest, hypercube analysis, Bayesian networks and mixed model for repeated measures were used. For supervised analysis, the targeted outcome measure was the haemoglobin level around 6 month of treatment, using EMA guidelines (haemoglobin level between [10-12] g/dL). As treatment patterns are very different, analyses have been performed by subgroup of patient naïve or not of ESA. Patients were followed up every 3 months during 1 year. **RESULTS:** 616 adult patients were included/followed in the OCEANE study between 2009 and 2011, 609 patients were taken into account for these analyses (haemoglobin available at baseline) and 44% were ESA-naïve. 44% of patients without transfusion had a haemoglobin level within 10–12 g/dL around 6 months of treatment. For ESA-naïve patients, most patients with a haemoglobin level lower than 10 g/dL at 3 months remained below the target at 6 months. Regarding non ESA-naïve patients, most patients with a haemoglobin level greater than 12 g/dL at 3 months remained above the target at 6 months. Dose adjustments were not performed for 2/3 of patients around 3 months when haemoglobin was outside the target range. **CONCLUSIONS:** These techniques on real world data seems to be a way to broaden the pathology, compound and practice patterns interactions. Dose adjustment around 3 months of treatment is a key factor for achieving the recommended haemoglobin target after 6 months. Our study confirms the importance of personalized anaemia management based on the patient's profile.

PUK5

PATTERNS OF MEDICATION USE IN CHRONIC KIDNEY DISEASE STAGE 5D: EMPHASIS ON MEDICATIONS FOR THE MANAGEMENT OF CKD-MBD

Salman M[1], Khan AH[2], Adnan AS[3], Syed Sulaiman SA[2], Hussain K[1], Mansoor S[1], Shehzadi N[1]

[1]*University of the Punjab, Lahore, Pakistan,* [2]*Universiti Sains Malaysia, Pulau Pinang, Malaysia,* [3]*Hospital Universiti Sains Malaysia, Kelantan, Malaysia*

OBJECTIVES: This study aims to determine the patterns of medication use in patients with chronic kidney disease (CKD) stage 5D with special focus on drugs for the management of chronic kidney disease-mineral and bone disorder (CKD-MBD). **METHODS:** A retrospective, observational study was conducted at Hospital Universiti Sains Malaysia. Medical records of 134 adult patients with CKD stage 5D were reviewed from January-April, 2014. Data regarding patient's demographics, co-morbidities and medications were collected. The medications prescribed were classified according to the Anatomic Therapeutic Chemical classification recommended by World Health Organization. The drugs were further categorized as clinic and home medications. Comparisons were made between age groups (≤ 50 or > 50 years), gender and diabetic status. **RESULTS:** Patients were 52.97 ± 14.05 years old, and were prescribed 12.88 ± 4.14 medications (10.00 ± 2.88 home medications and 2.88 ± 2.99 clinic medications). Patient's gender had no influence on the number of prescribed medications. However, patients with diabetes and elderly patients were